

**BULLETIN**  
*of the*  
**AMERICAN ASSOCIATION OF**  
**PETROLEUM GEOLOGISTS**



**BULLETIN**  
*of the*  
**AMERICAN ASSOCIATION OF  
PETROLEUM GEOLOGISTS**

---

RAYMOND C. MOORE, *Editor*

REGIONAL ASSOCIATE EDITORS

<i>General:</i>	K. C. HEALD, Yale University, New Haven, Connecticut
<i>Appalachian:</i>	R. H. JOHNSON, University of Pittsburgh, Pittsburgh, Pennsylvania
<i>Central Western:</i>	J. H. HANCE, Illinois Geological Survey, Urbana, Illinois
<i>North Mid-Continent:</i>	SIDNEY POWERS, 917 Petroleum Building, Tulsa, Oklahoma
<i>South Mid-Continent:</i>	F. H. LAHEE, American Exchange National Bank Building, Dallas, Texas
<i>Gulf Coast:</i>	WALLACE E. PRATT, Humble Building, Houston, Texas
<i>Louisiana:</i>	J. P. D. HULL, Shreveport, Louisiana
<i>Rocky Mountain:</i>	E. L. ESTABROOK, Casper, Wyoming
<i>Pacific Coast:</i>	W. S. W. KEW, 901 So. Norton Ave., Los Angeles, California

---

**VOLUME VIII**  
**JANUARY—DECEMBER 1924**

---

**PUBLISHED BY THE ASSOCIATION  
CHICAGO, ILLINOIS**

Science Library

TN  
860  
.A5126  
copy 2

COPYRIGHT 1924 BY  
THE AMERICAN ASSOCIATION OF  
PETROLEUM GEOLOGISTS

Published  
February, April, June, August, October,  
December, 1924

Composed and Printed By  
The University of Chicago Press  
Chicago, Illinois, U.S.A.

Chem.-Eng.  
Direct.

## CONTENTS OF VOLUME VIII

### NUMBER I

	PAGE
A STUDY OF THE PRESENT CALIFORNIA OIL SITUATION. Joseph Jensen	I
RÉSUMÉ OF THE GEOLOGY OF THE GULF COASTAL PLAIN. J. E. Brantly	21
A COMPARATIVE STUDY OF THE SAN JOAQUIN VALLEY OIL FIELDS. John B. Stevens . . . . .	29
HUNTINGTON BEACH OIL FIELD, ORANGE COUNTY, CALIFORNIA. S. H. Gester. . . . .	41
SOME PLANETABLE METHODS. Walter A. English . . . . .	47
A SECTION OF THE MONTEREY (SALINAS) SHALES IN PINE CANYON, MONTEREY COUNTY, CALIFORNIA. Walter Stalder . . . . .	55
EARLY OIL DEVELOPMENT IN CALIFORNIA. W. W. Orcutt . . . . .	61
THE RÔLE OF THE GEOLOGIST IN THE DEVELOPMENT OF THE CALIFORNIA OIL FIELDS. Robert B. Moran . . . . .	73
GEOLOGICAL NOTES	
Gas near Fort Collins, Colorado, <i>Max W. Ball</i> . . . . .	79
The importance of Water Analyses, <i>A. C. Lane</i> . . . . .	87
Geological Features Illustrated by Models, <i>L. G. Huntley</i> . . . . .	89
DISCUSSION	
Concerning Theories, <i>Fred B. Ely</i> . . . . .	94
REVIEWS AND NEW PUBLICATIONS . . . . .	97
THE ASSOCIATION ROUND TABLE . . . . .	99
AT HOME AND ABROAD . . . . .	131

### NUMBER II

NEW DEVELOPMENT PROBLEMS AND THEIR SOLUTION IN SOUTHERN CALIFORNIA OIL FIELDS. Joseph Jensen and Glenn D. Robertson	135
SUBSURFACE STRUCTURE OF EASTERN KENTUCKY. Gene Perry . . . . .	152
THE CORRELATIVE VALUE OF THE HEAVY MINERALS. F. G. Tickell . . . . .	158
THE OIL FIELDS OF CHINA. T. O. Chu . . . . .	169
SANTA FE SPRINGS FIELD, CALIFORNIA. R. R. Templeton and C. R. McCollom . . . . .	178
"BLACK SHALE" FORMATION IN AND ABOUT CHESAPEAKE BAY. Marcus I. Goldman . . . . .	195

	PAGE
NOTES ON NATURAL GAS FIELDS OF TRANSYLVANIA, ROUMANIA. Frederick G. Clapp . . . . .	202
CALIFORNIA OIL PRODUCTION AND RESERVES. R. E. Collom and R. M. Barnes. . . . .	212
GEOLOGICAL NOTES	
New Geological Map of Oklahoma, <i>Sidney Powers</i> . . . . .	240
Absence of Metamorphosed Sedimentary Rocks in the Texas Panhandle, <i>David Donoghue</i> . . . . .	241
Contribution to Stratigraphy of Western Kansas, <i>K. C. Heald</i> . . . . .	242
Exploration for Oil in Australia, <i>Jon A. Udden</i> . . . . .	244
Cotton Valley Oil and Gas Fields, Webster Parish, Louisiana, <i>Sidney Powers</i> . . . . .	244
Smaller Foraminifera for Stratigraphy, <i>G. Dallas Hanna</i> . . . . .	246
REVIEW . . . . .	251
THE ASSOCIATION ROUND TABLE . . . . .	261
AT HOME AND ABROAD . . . . .	264

## NUMBER III

THE TONKAWA FIELD, OKLAHOMA. G. C. Clark and F. L. Aurin . . . . .	269
THE TONKAWA OIL AND GAS FIELD, OKLAHOMA. J. F. Hosterman . . . . .	284
KEROGEN AND ITS RELATION TO THE ORIGIN OF OIL. Earl A. Trager . . . . .	301
AREAL GEOLOGY OF A PART OF SOUTHWESTERN OKLAHOMA. Roger W. Sawyer . . . . .	312
A NEW CLASSIFICATION OF THE PERMIAN REDBEDS OF SOUTHWESTERN OKLAHOMA. Charles N. Gould . . . . .	322
GEOLOGICAL NOTES	
Bentonite in the Upper Cretaceous of Louisiana, <i>M. N. Bramlette</i> . . . . .	342
Volcanic Rocks in the Cretaceous of Louisiana, <i>M. N. Bramlette</i> . . . . .	344
The Sayre Field, Beckham County, Oklahoma, <i>R. A. Birk</i> . . . . .	347
Plans for Compilation of Louisiana-Arkansas Geology, <i>J. P. D. Hull</i> . . . . .	350
REVIEWS . . . . .	352
THE ASSOCIATION ROUND TABLE . . . . .	362
AT HOME AND ABROAD . . . . .	398

## NUMBER IV

THE LONG BEACH OIL FIELD AND ITS PROBLEMS. A. T. Schwennesen, R. M. Overbeck, and H. H. Dubendorf . . . . .	403
A REVISION OF THE TEXAS TERTIARY SECTION WITH SPECIAL REFERENCE TO THE OIL-WELL GEOLOGY OF THE COAST REGION. E. T. Dumble . . . . .	424

# CONTENTS OF VOLUME VIII

vii

	PAGE
SUBSURFACE OBSERVATIONS IN SOUTHEAST KANSAS. Henry A. Ley . . . . .	445
OIL DEVELOPMENTS ALONG THE KENTUCKY-TENNESSEE LINE DURING 1923. Wilbur A. Nelson. . . . .	454
OIL SHALE IN SANTA BARBARA COUNTY, CALIFORNIA. F. D. Gore . . . . .	459
OIL GEOLOGY AND SCIENCE. K. C. Heald . . . . .	473
THE USE OF FORAMINIFERA IN GEOLOGIC CORRELATION. Joseph A. Cushman . . . . .	485
PRELIMINARY REPORT ON WATER CONDITIONS IN THE FIRST WALL CREEK SAND, SALT CREEK OIL FIELD, WYOMING. Kenneth B. Nowells . . . . .	492
EVIDENCES OF SLUMPING PREVIOUS TO CONSOLIDATION IN THE PENNSYLVANIAN OF OKLAHOMA. Clarence S. Ross . . . . .	505
GEOLOGICAL NOTES	
Developments at Fort Norman, Mackenzie District, Canada . . . . .	511
Some Notes on Triangulation Targets, <i>Ernest Guy Robinson</i> . . . . .	512
Occurrences of Oil and Gas in Wyoming, <i>E. L. Estabrook</i> . . . . .	515
The Jurassic as a Source of Oil in Western Cuba, <i>Albert Wright, Jr. and P. W. K. Sweet</i> . . . . .	516
Carbon Ratios of Cretaceous Coals in New Mexico in Their Possible Relation to Oil, <i>Willis Storm</i> . . . . .	519
Volcanic Ash in Northern Louisiana, <i>A. F. Crider</i> . . . . .	525
Temperature of Oklahoma's Deepest Well, <i>Hugh D. Miser</i> . . . . .	525
The Effect of Pressure on the Migration of Oil, <i>E. T. Thomas</i> . . . . .	527
REVIEW . . . . .	529
THE ASSOCIATION ROUND TABLE . . . . .	530
OBITUARY. Hans von Höfer, <i>Adam Wroblewski</i> . . . . .	534
AT HOME AND ABROAD . . . . .	535

## NUMBER V

THE VALUE OF MICRO-FOSSILS IN PETROLEUM EXPLORATION. Charles Schuchert . . . . .	539
SOME NOTES ON THE UPPER CRETACEOUS PALEOGEOGRAPHY OF MONTANA. Ernest Guy Robinson . . . . .	554
CHEMICAL CHARACTERISTICS OF CALIFORNIA PETROLEUMS. Paul W. Prutzman . . . . .	560
DYNAMICS OF OIL-FIELD STRUCTURE IN SOUTHERN CALIFORNIA. R. N. Ferguson and C. G. Willis . . . . .	576
BURBANK FIELD, OSAGE COUNTY, OKLAHOMA. J. M. Sands . . . . .	584
THE GRAHAM FIELD, OKLAHOMA. C. W. Tomlinson and Willis Storm. . . . .	593

	PAGE
THE OIL HORIZONS OF KENTUCKY, NORTHEASTERN MISSISSIPPI, AND TENNESSEE. Wilbur A. Nelson . . . . .	621
THE MINERVA OIL FIELD, MILAM COUNTY, TEXAS. D. S. Hager and I. O. Brown . . . . .	632
LOGGING WELLS DRILLED BY THE ROTARY METHOD. Edgar Kraus . . . . .	641
GEOLOGICAL ORGANIZATION OF AN OIL COMPANY. E. G. Gaylord and J. A. Taff . . . . .	651
THE ORIGIN OF THE GREEN RIVER FORMATION. Junius Henderson . . . . .	662
GEOLOGICAL NOTES	
Note on the Origin of Petroleum, FREDERIC H. LAHEE . . . . .	669
Use of the Sketching Case in Geologic Work, G. A. Waring . . . . .	672
Sandstone Inclusion in Salt in Mine on Avery's Island, K. C. Heald . . . . .	674
Large Gas Well in Jim Hogg County, Texas, Richard A. Jones . . . . .	676
REVIEWS . . . . .	678
THE ASSOCIATION ROUND TABLE . . . . .	685
AT HOME AND ABROAD . . . . .	691

---

 NUMBER VI

MIGRATION OF OIL AND WATER, A FURTHER DISCUSSION. E. M. Parks . . . . .	697
TEXTURE OF OIL SANDS WITH RELATION TO THE PRODUCTION OF OIL. A. F. Melcher . . . . .	716
THE LULING OIL FIELD IN CALDWELL COUNTY, TEXAS. E. H. Sellards . . . . .	775
THE OIL FIELDS OF VENTURA COUNTY, CALIFORNIA. N. L. Taliaferro, F. S. Hudson, and W. N. Craddock . . . . .	789
GEOLOGICAL NOTES	
"Direct Synthesis of Higher from Lower Hydrocarbons," W. T. Thom, Jr. . . . .	830
Carbon Dioxide from Wells in Colorado, James Terry Duce . . . . .	831
REVIEWS AND NEW PUBLICATIONS. . . . .	832
THE ASSOCIATION ROUND TABLE . . . . .	838
AT HOME AND ABROAD . . . . .	843
INDEX TO VOLUME VIII . . . . .	848



